SmaFinger.NET ®
Web-base Application

User’s Manual

(For SF650A Reader)

REV.A

March 21, 2012

Table of Contents

Installation 5

1. Reader Structure 6

2. Connect the SF650A on the Ethernet 8

3. Setup Device Name or Device IP 9

Application 10

1. Link to "SmaFinger.Net® Web Administrator Utility" Site 11

2. Add a new user and fingerprints 12

3. Receive access data from TCP/IP 14

Instruction 18

Login/Logout: 19

Tools/Remote Door Control Page 21

Tools/Buffering Page (Except SF650ASD) 21

Tools/Record Recover Page (for SF650ASD Only) 22

Tools/Edit User Name Page 23

Tools/Change User ID Page 23

Tools/Enroll a User Page 24

Tools/Change User ID Page 24

Settings/Event Server Page 25

Settings/New Password Page 25

Settings/Time Zone Page 26

ANNEX A. How to Change PC/Laptop Network Setting to Support the Auto IP Mode 28

ANNEX B. How to Go Back to Default Settings 30

ANNEX C. How to Connect Reader to Controller via RS232/RS485/Wiegand/Tk2 31

ANNEX D. How to Update Fingerprints by Software 32

ANNEX E. How to Update Fingerprints by Manager Card 34

ANNEX F. Event Server Detail 37

Event Data Structure 37

Record File Format 38

Record File Path 38

.....39

ANNEX G. History.....40

Installation

1. Reader Structure

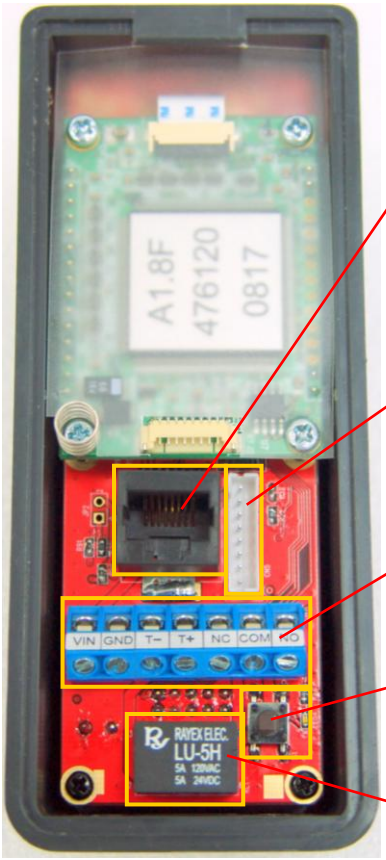
Front

LED Indicator
(Blue/Green/Red)

Fingerprint Sensor

RFID Antenna

Back



TCP/IP RJ45 Connector

White Pin Connector
(Power Supply1/RS232/Wiegand/TK2)

Blue Pin Connector
(Power Supply2/RS485/Relay IO)

Reset-Key Button

Relay

TCP/IP RJ45 Connector: Connect to WAS-T0413 for TCP/IP.

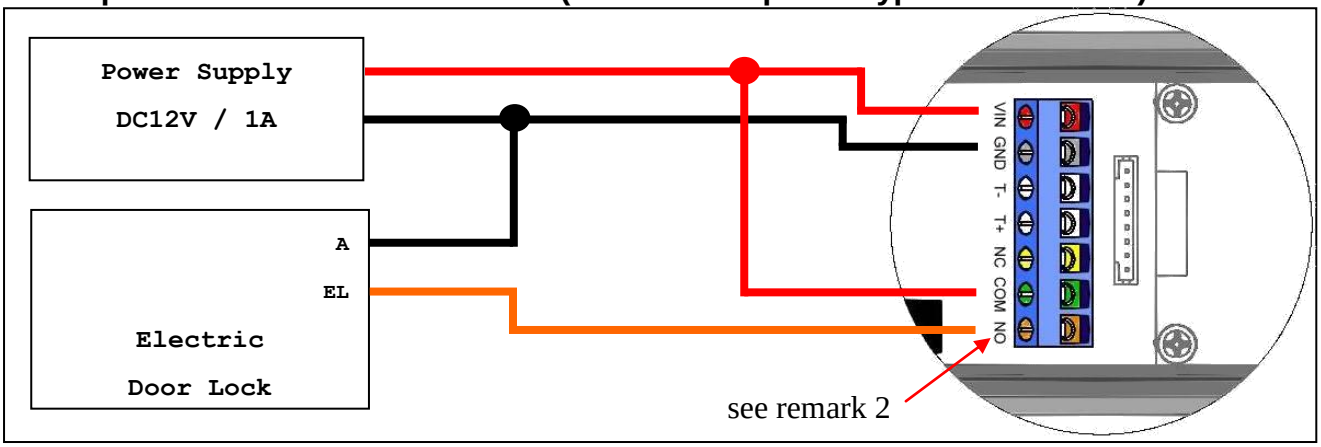
White Pin Connector: Connect to WAS-T0132 for RS232/Wiegand/TK2

(refer to page 25)

Blue Pin Connector: (About RS485 Connection please refer to page 25)

VCC	GND	RS485-	RS485+	NC	COM	NO
DC9~12V	Ground	T+	T-	Normal Close	Common Point	Normal Open

Example for Door Lock Connection (for Normal-opened type of Door Lock)



Remark:

1. **DO NOT connect power supply from the 8pin connector when you have connected the power supply from VIN at the 7pin connector to avoid damaging the unit.**
2. **If the lock requires power to lock (eg. EM lock), connect this point to NC**
   If the lock requires power to unlock (eg. Electric strike), connect this point to NO

Reset-Key: back to default settings (refer to page 23)

Relay: 3A 120VAC / 3A 30VDC

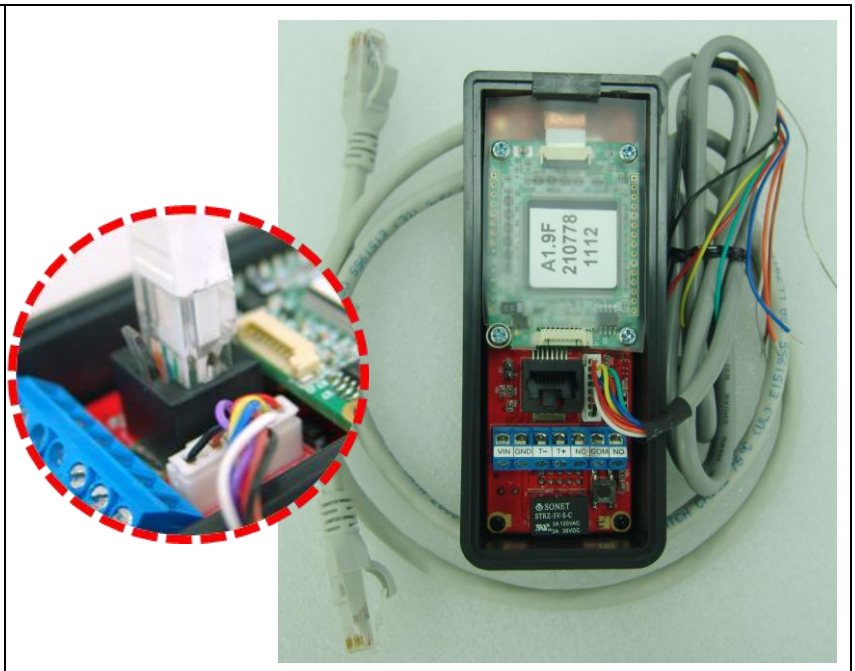
2. Connect the SF650A on the Ethernet

Step 1

Connect SF650A to Ethernet HUB with (WAS-T0413) cable.

Note:

You can also connect SF650A to your PC or Laptop directly with same cable.



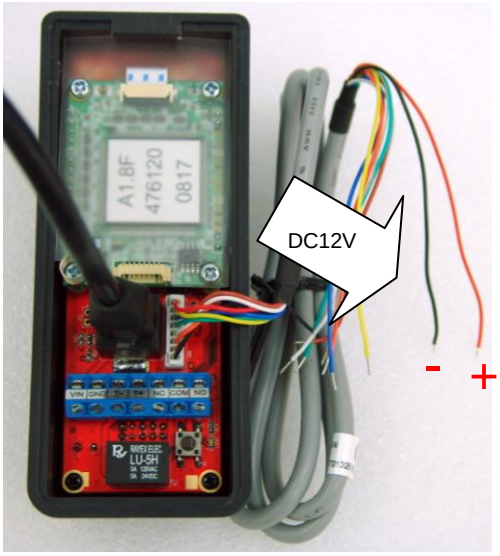
Step 2

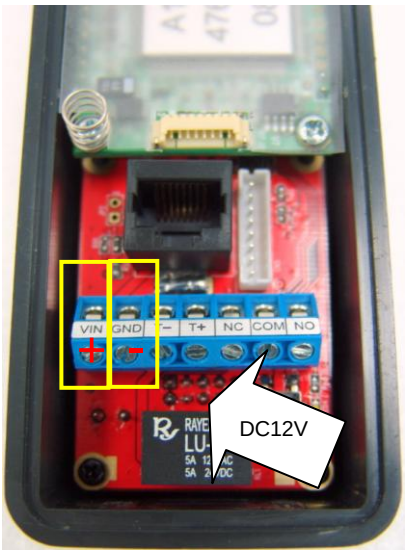
Connect Power **DC12V** with (WAS-T0132) Cable

Remark:

The WAS-T0132 can be used for Power.

Or, you can connect the power to the PIN VCC and GND (blue connector of SF650A).



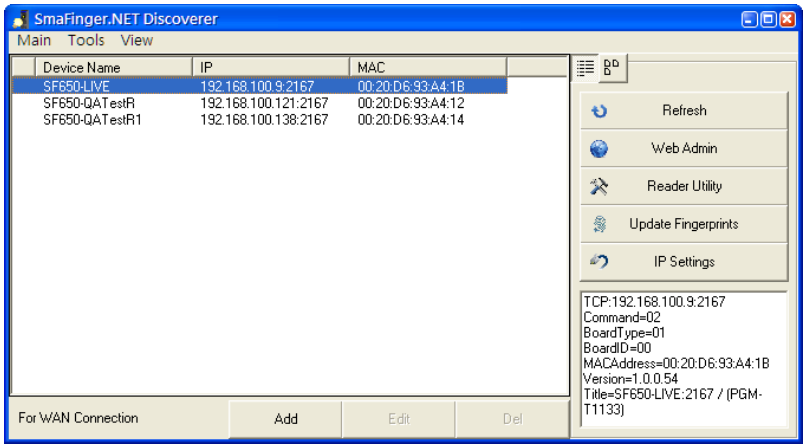


3. Setup Device Name or Device IP

Step 1

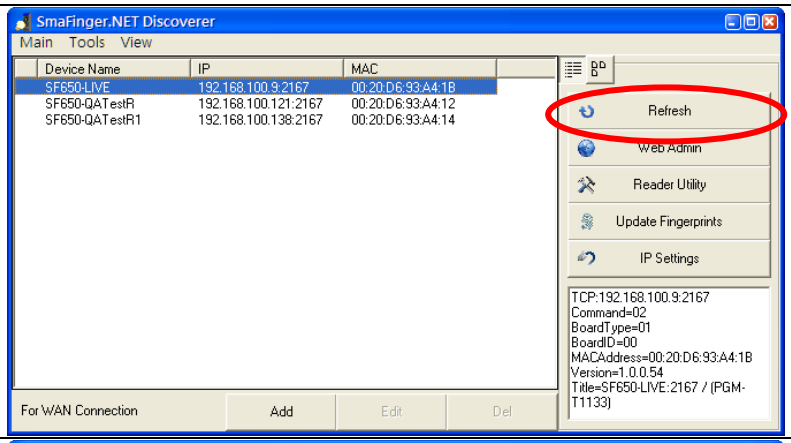
Use "SmaFinger.NET® Discoverer" utility to search allSmaFinger.NET® devices on the network.

(Install "SmaFingerAppTools.exe" first. The utility can be found in the CD disk5406).



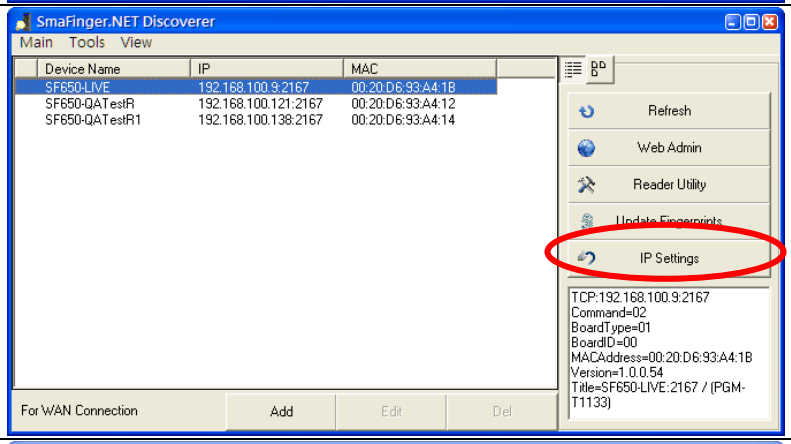
Step 2

Click "Refresh" to refresh the device list.



Step 3

Click "IP Settings" to change the new device name.

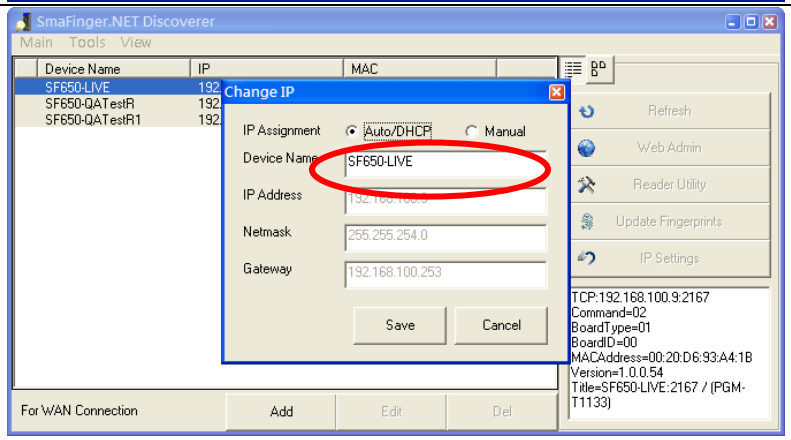


Step 4

Edit the SF650A device name for easy recognition.

Click "Save" to change the settings.

Notice: If you need use manual IP, you can click "Manual" and setup the correct IP you used.



Application

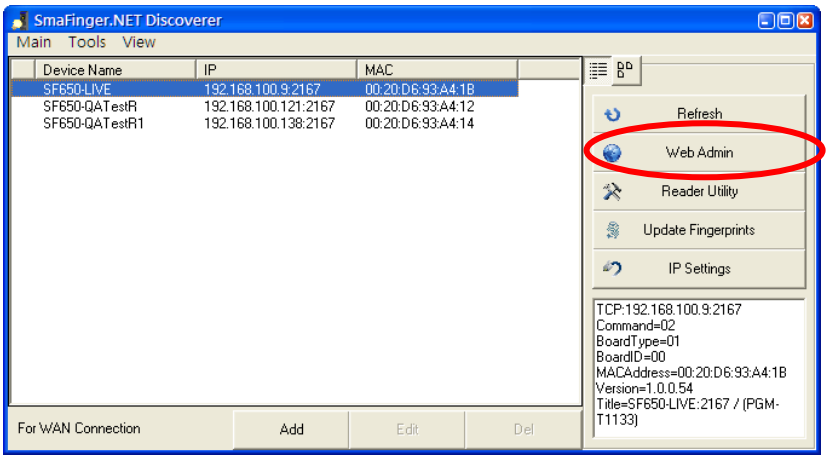
1. Link to "SmaFinger.Net® Web Administrator Utility" Site

Step 1

Use "SmaFinger.NET® Discoverer Utility" to search all available SmaFinger.NET® devices on the network.

Click "Web Admin" to go to the Web Administrator Utility

Or you can type the Device Name on browser to link.



Step 2

On Login page, to login to the SF650A device.

Step 3

Login on the SF650A

Remark: < Default username & password >

Username: admin

Password: admin

2. Add a new user and fingerprints

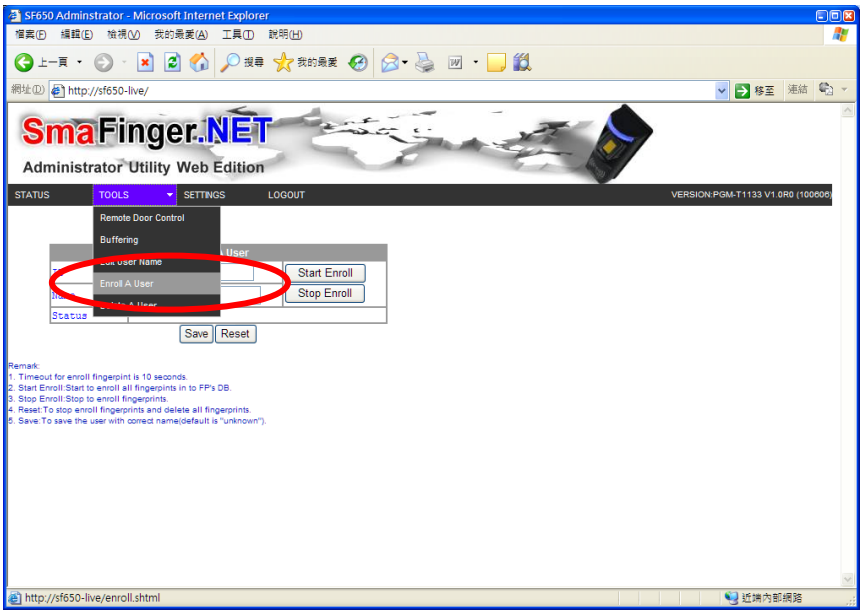
Step 1

1. Login Web Admin Page.

2. Refer to " Control Device with Internet Browser"

Step 2

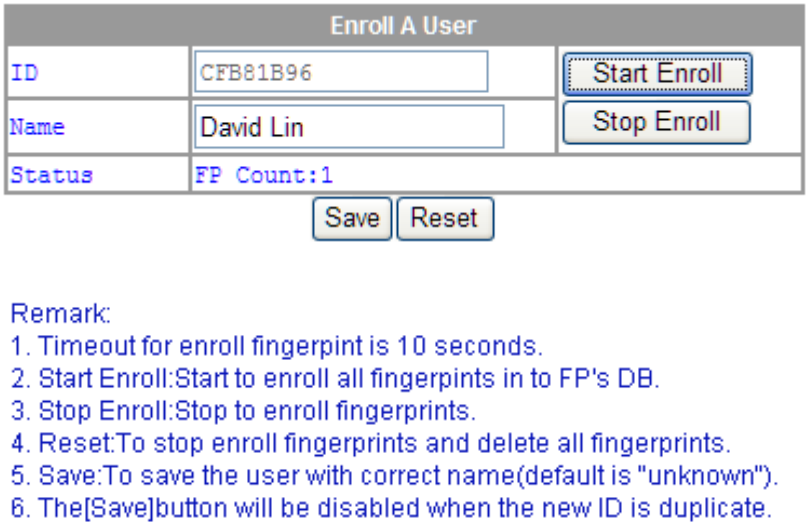
Click "Enroll A User" on the "Tools" menu of SF650A Administrator utility page.



Step 3

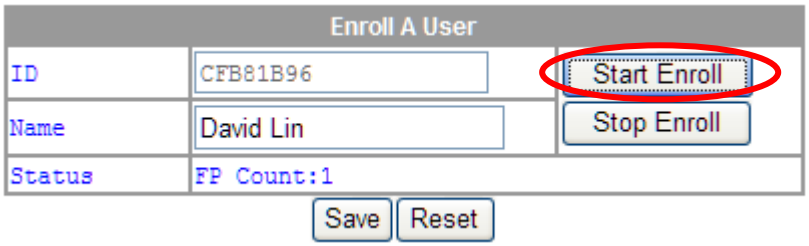
Type in the new user's name

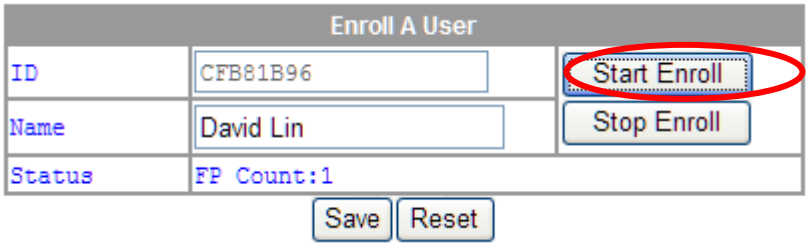
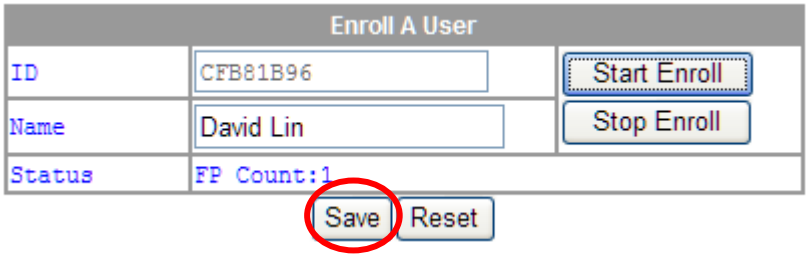
Remark: To assign a specific ID to the enrolled fingerprint, you have to click "Save" at the step 7. However, you have to enter a name in "Name" box at this step first if you want "Save" action to be done successfully.


Enroll A User
ID
CFB81B96
Start Enroll
Name
David Lin
Stop Enroll
Status
FP Count:1
Save
Reset
Remark:
1. Timeout for enroll fingerpint is 10 seconds.
2. Start Enroll:Start to enroll all fingerpints in to FP's DB.
3. Stop Enroll:Stop to enroll fingerprints.
4. Reset:To stop enroll fingerprints and delete all fingerprints.
5. Save:To save the user with correct name(default is "unknown").
6. The[Save]button will be disabled when the new ID is duplicate.

Step 4

Click the "Start Enroll" to start the enroll process.



Step 5 1. Please put the fingerprint on reader twice when blue LED flash. 2. "Status" will show how many fingerprints enroll success.	
Step 6 Repeat the Step 4~5 to Enroll 1~10 fingerprints for this user (optional).	
Step 7 Click the "Save" to finish a new user adding.	

Note:

Click “Stop Enroll” to cancel the enroll process,

Click “Reset” to cancel the enroll process, and delete all fingerprints with this user.

3. Receive access data from TCP/IP

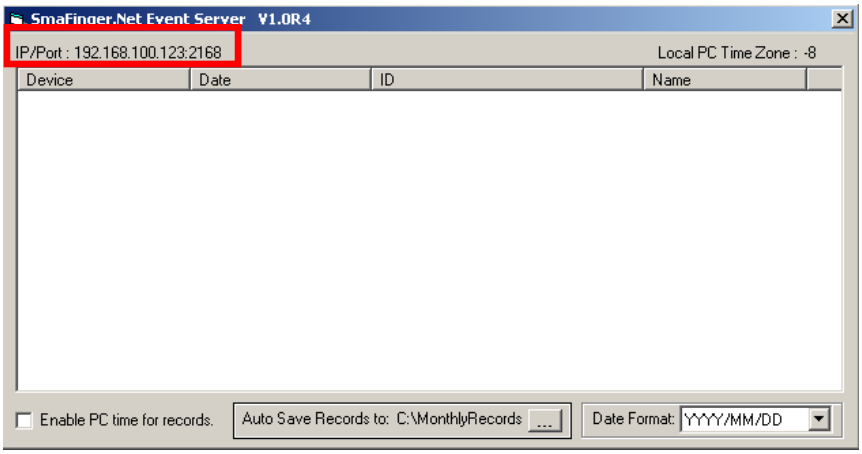
Step 1

1. Connect the reader to Network.

2. Run "Event Server".

In this example:
Local IP=192.168.100.123
Local Port=2168

(Install "SFEventSetup.exe" first. The utility can be found in the CD disk5406)



Step 2

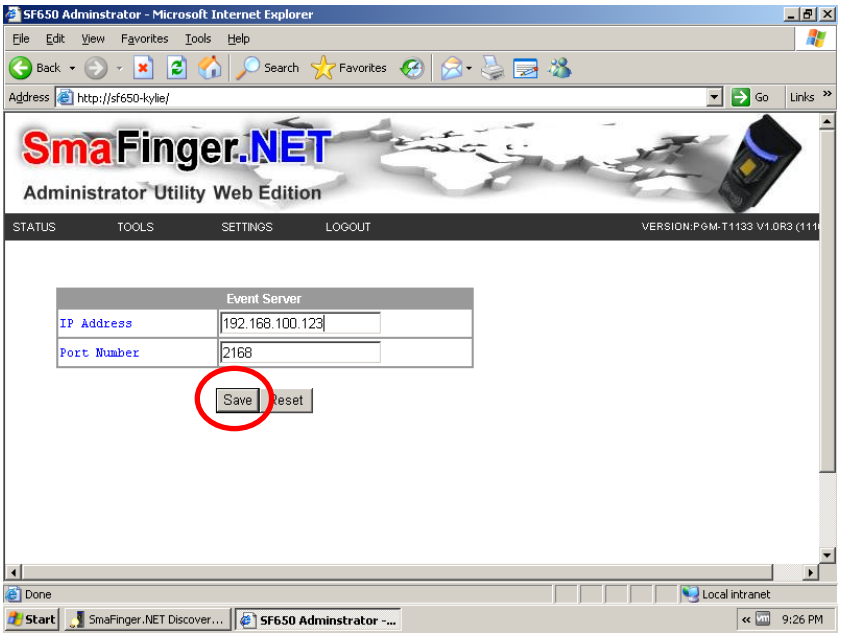
1. Open web browser to link SmaFinger® reader.

2. Login in and click "SETTINGS"
   ↓
   "Event Server"

Step 3

1. Then type in the IP and Port of Event Server.

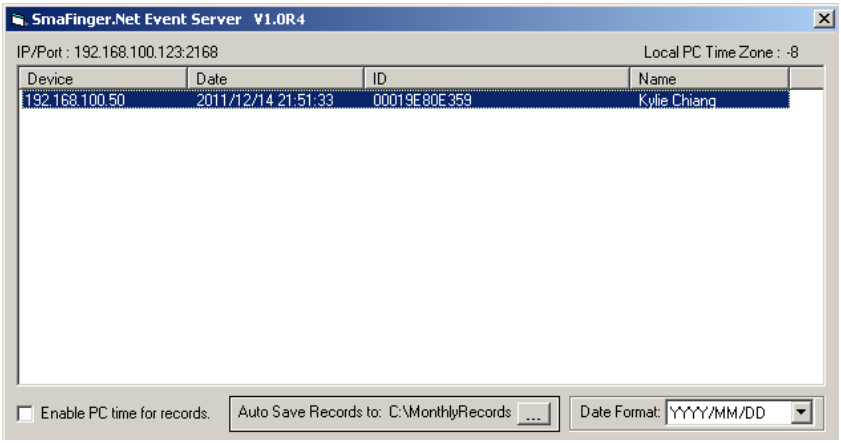
2. Click "Save".



Step 4

1. The record data (buffering) will arrive at "Event Server" when user login success by SmaFinger® reader.

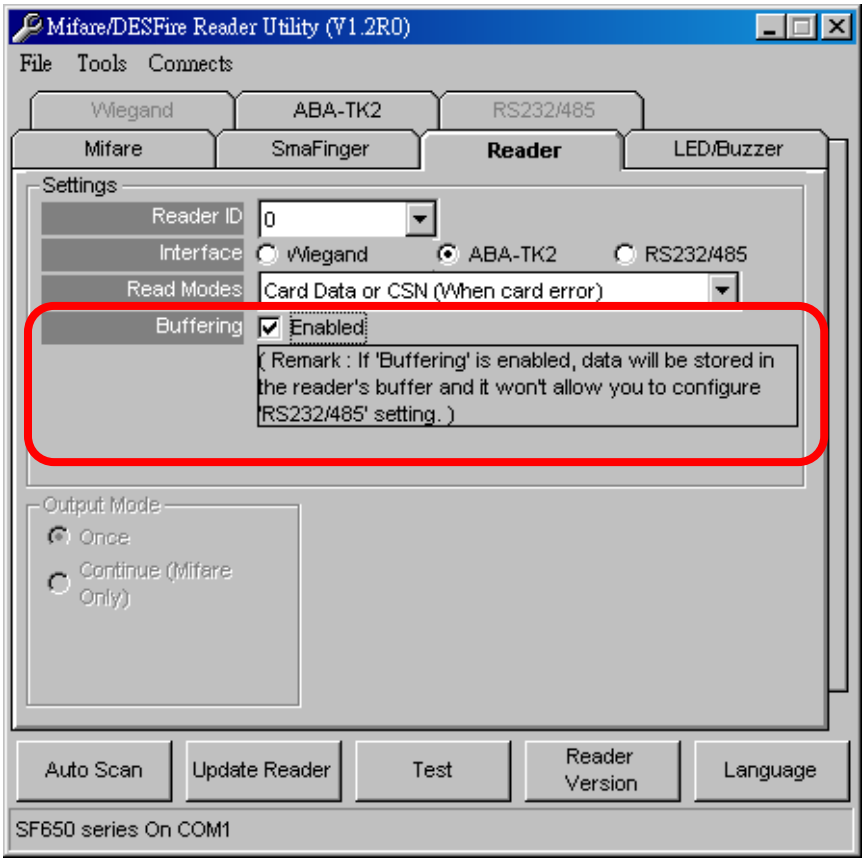
Remark: please reference ANNEX F to get more detail of "Event Server" record file.



Notice:

1. You can develop your software to receive data by the source code in DISK5406.

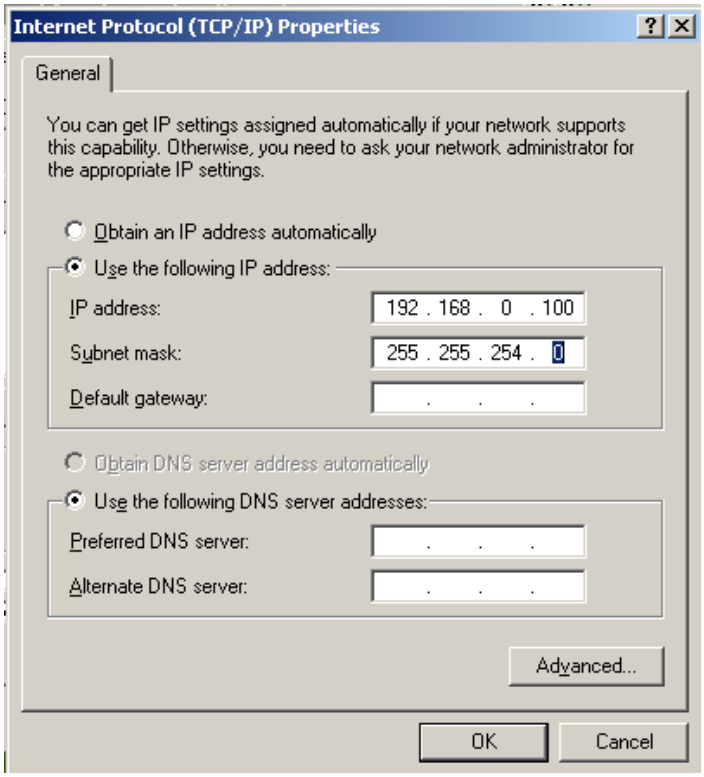
2. If no record data arrive at 'SmaFinger.Net® Event Server', please open 'Mifare®/DESFire® Reader Utility', check 'Buffering Enable', and then click 'Update Reader'.
Try again login with fingerprint after update reader.

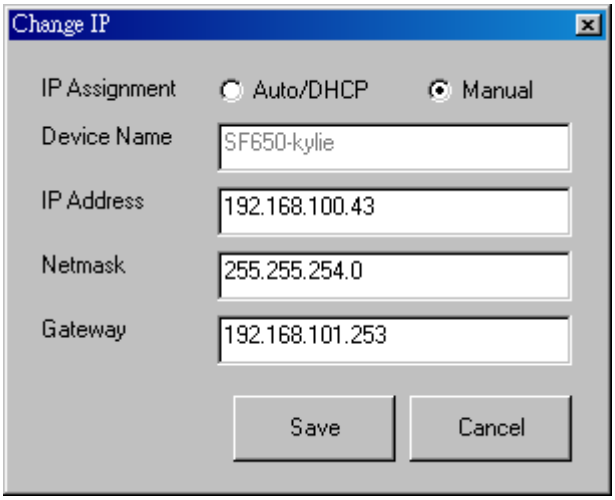


3. if no record data arrive at 'SmaFinger.Net® Event Server', but there has record data arrived at
Web Admin Site / TOOLS/ Buffering,
and the reader's connection is normally connected.

This problem probably because of the Windows is setting on manual IP as the right side illustration, but the SmaFinger® device is setting on "Auto Assignment IP".

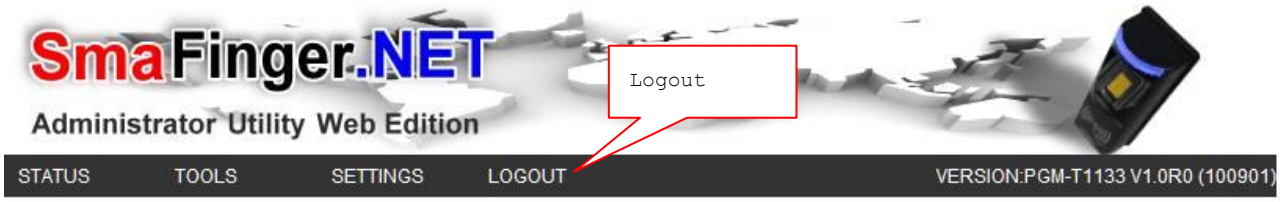
The solution is to set the Windows Default Gateway address,

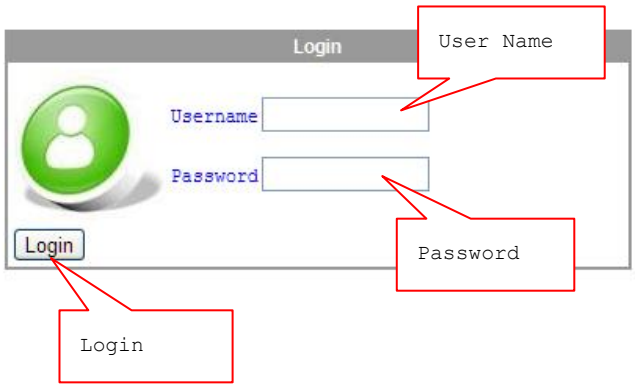

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 100
Subnet mask: 255 . 255 . 254 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

and same to the “SmaFinger® Discoverer”, please change IP by “Manual”, and then set the Gateway address. About the more detail of the gateway address, please check with your IT for the certainly information.	

Instruction

Login/Logout:





User Name: default name is "admin".

Password: default password is "admin", you can also change the password from "settings".

Login: Click to Login.

Logout: Click to Logout

Status Page

Network	
Device Name	SF650-Terry2
IP Mode	Auto
IP Address	192.168.100.112
Netmask	255.255.254.0
Getway Address	192.168.101.253

SF650	
Reader	Mifare 1K/4K
Number of users	283
Available Fingerprint	92
Security Level	Normal

Firmware	
Code Number	PGM-T1133
Version	V1.0R0
Date Code(build)	100901

Network: display the Reader's Host Name and IP information. IP Mode = Auto or Manual.

SF650A: Number of Users means how many users in this reader. Each user can store 10 fingerprints

Available Fingerprints means this reader remain how many fingerprint memory space to store.

Security Level:

Fingerprint Security Level for FAR (False Acceptance Ratio)

Level	Verification (1:1)	Identification (1:N)			
		1~9	10~99	100~999	>=1000
Normal (Default)	1/10,000	1/10,000	1/100,000	1/1,000,000	1/10,000,000
Secure	1/100,000	1/100,000	1/1,000,000	1/10,000,000	1/100,000,000
More Secure	1/1,000,000	1/1,000,000	1/10,000,000	1/100,000,000	1/100,000,000

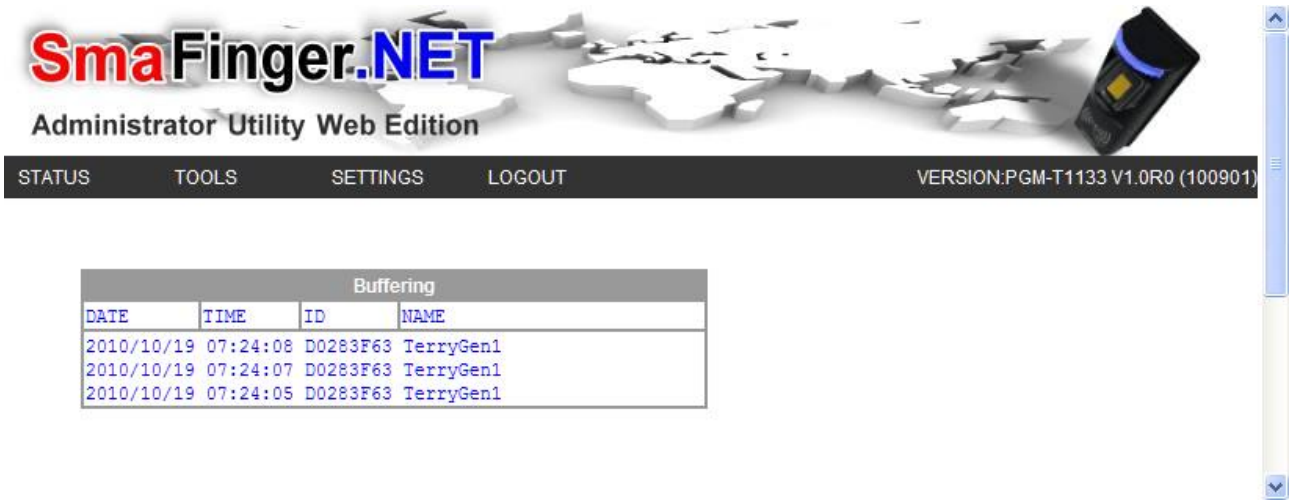
Firmware: Reader's firmware version.

Tools/Remote Door Control Page

Toggle: Click to turn on the relay.

Status: display the relay current status.

Tools/Buffering Page (Except SF650ASD)



Buffering: display current access data in reader. If you have an event server, this data will send out immediately. Buffering can keep the 32 data on the reader. When restart the reader then data will be disappear. It will throw the earlier data when record data are over 32.

Tools/Record Recover Page (for SF650ASD Only)

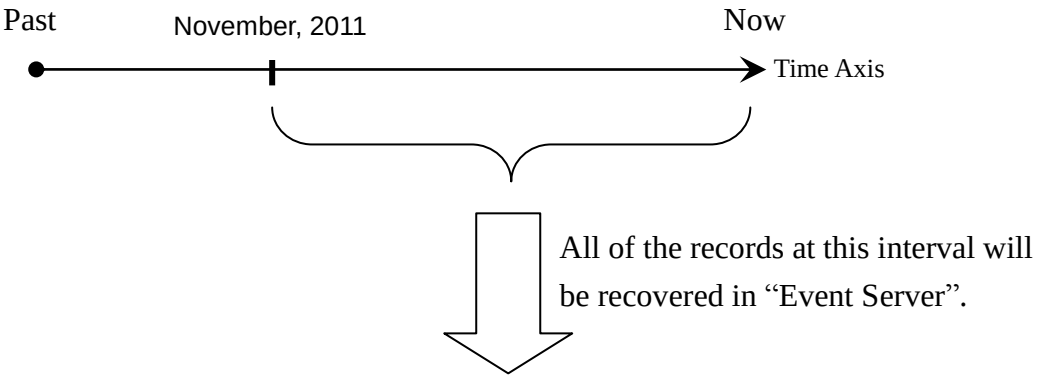
Record Recorver	
Year	2011
Month	11

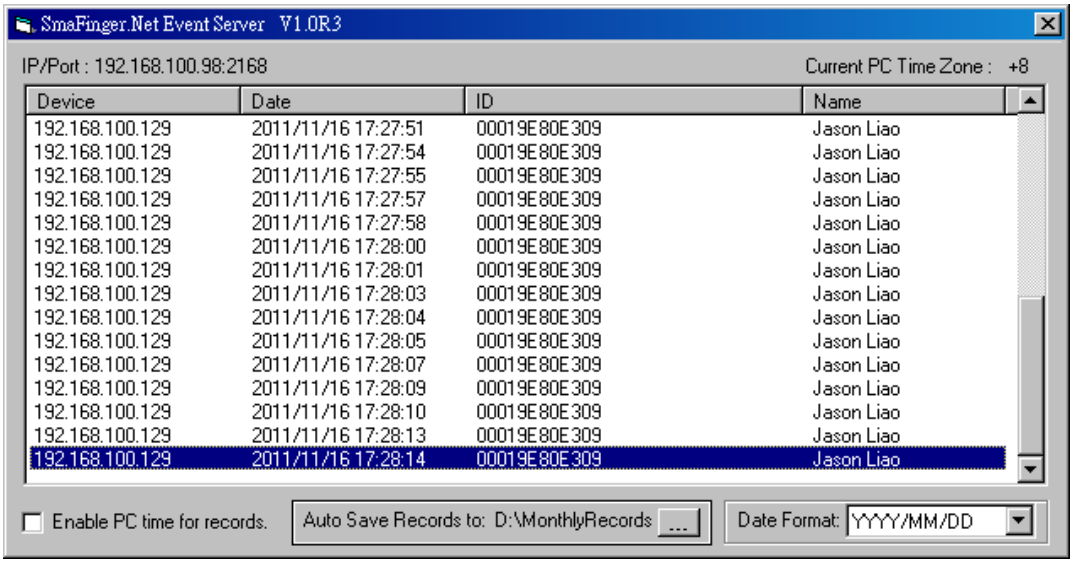
Save Reset

Remark:
Go back to old date to resend the old records again.

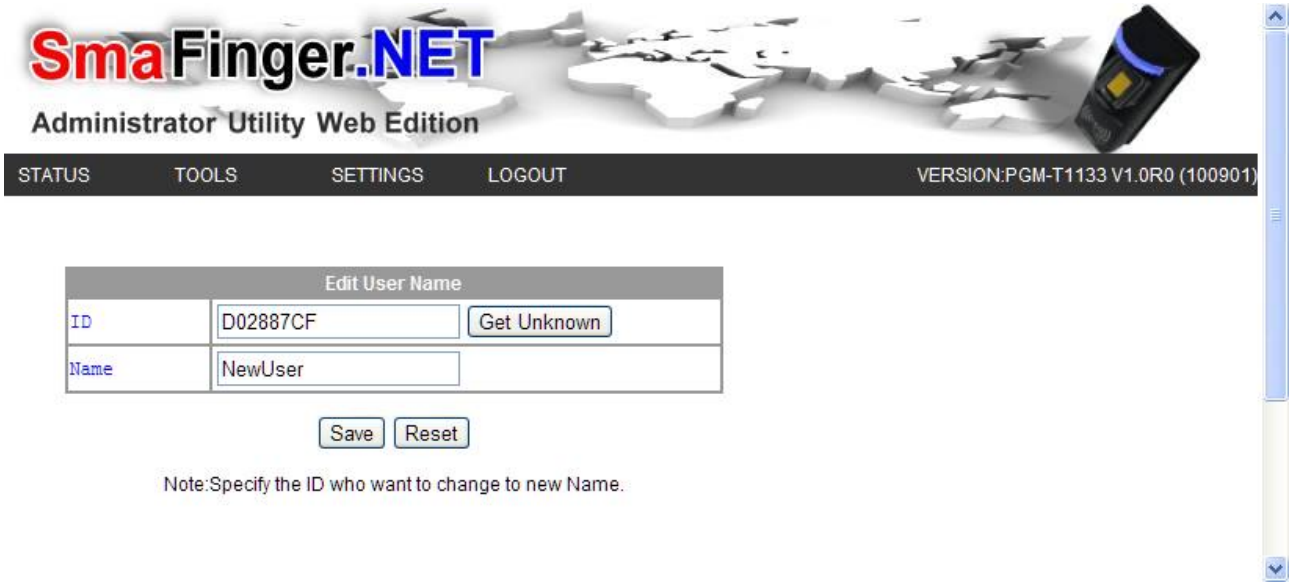
Record Recover: For SF650SD, After click “Save”, the “Event Server” will get old records, then save them automatically.

For example to recover records from November, 2011:





Tools/Edit User Name Page

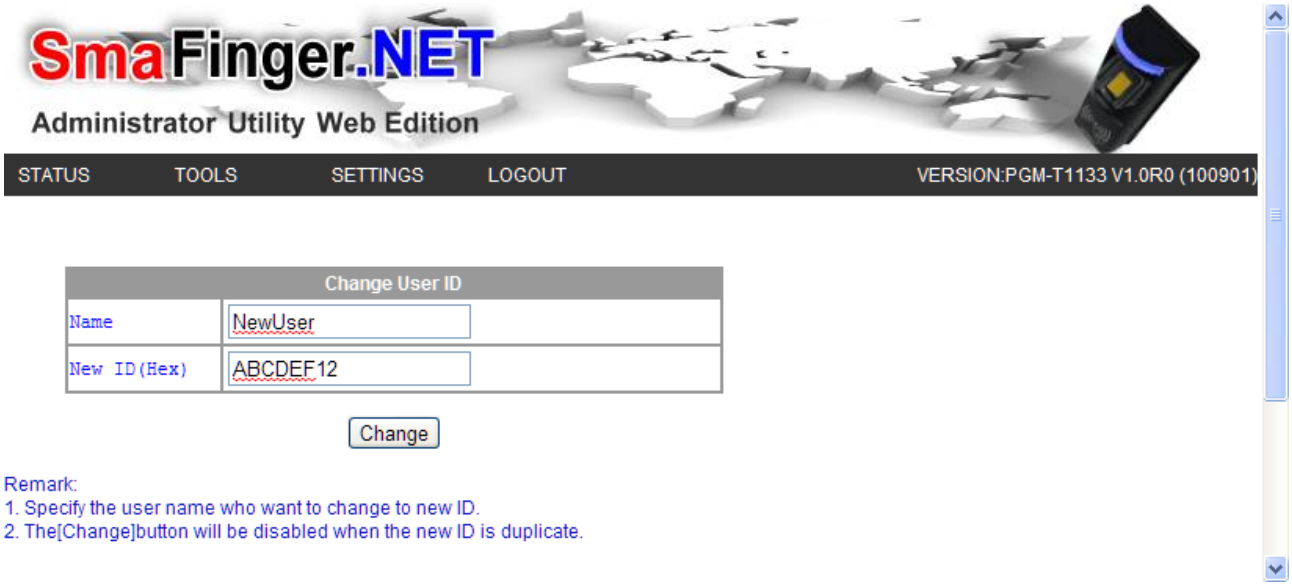


ID: User's ID.

Get Unknown: Click to fill an ID which don't have name.

Name: New Name for this user's ID.

Tools/Change User ID Page



Name: User's Name

New ID (Hex): please input user's id in Hex code 4bytes. There are 6 digits in 0~9, A~F.

Tools/Enroll a User Page

ID (HEX): User's ID.

Name: New Name for this user's ID.

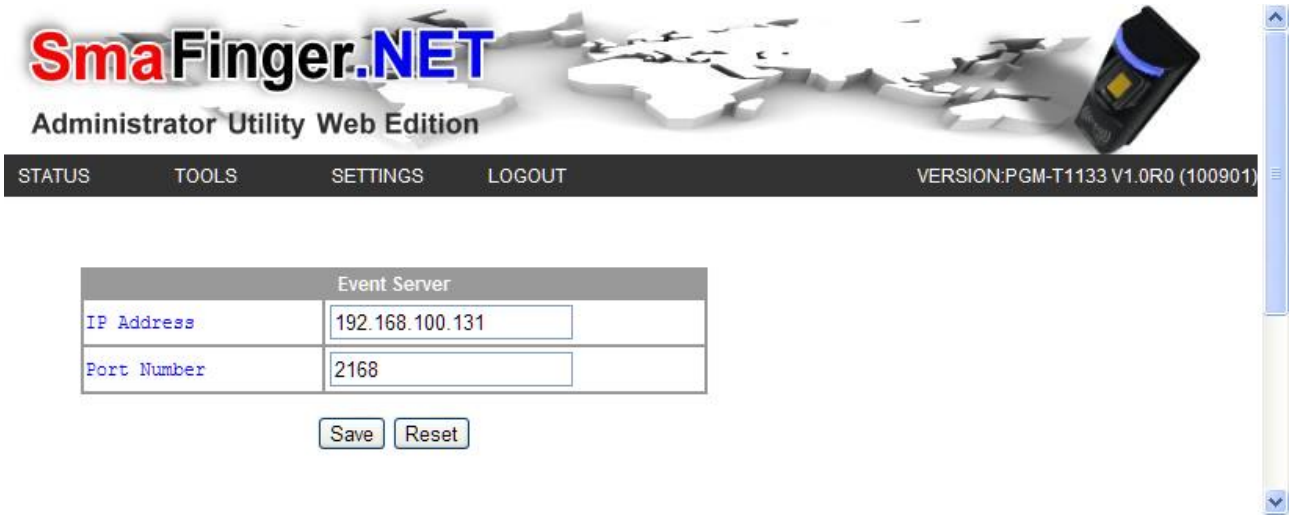
Status: display how many fingerprint enrolled for this user.

Tools/Change User ID Page

ID or Name: Type in the Name or ID to delete this user.

Get Unknown: Click to fill an ID which don't have name.

Settings/Event Server Page



IP Address: the server's IP

Port Number: 1~65535. This number is the same with server listening port.

Settings/New Password Page

New Password: The new password.

Confirm: retype again the new password.

Save: Click to save this password. If your "new password" and "confirm" are different, this button will be disabled.

Cancel: Click to cancel change password.

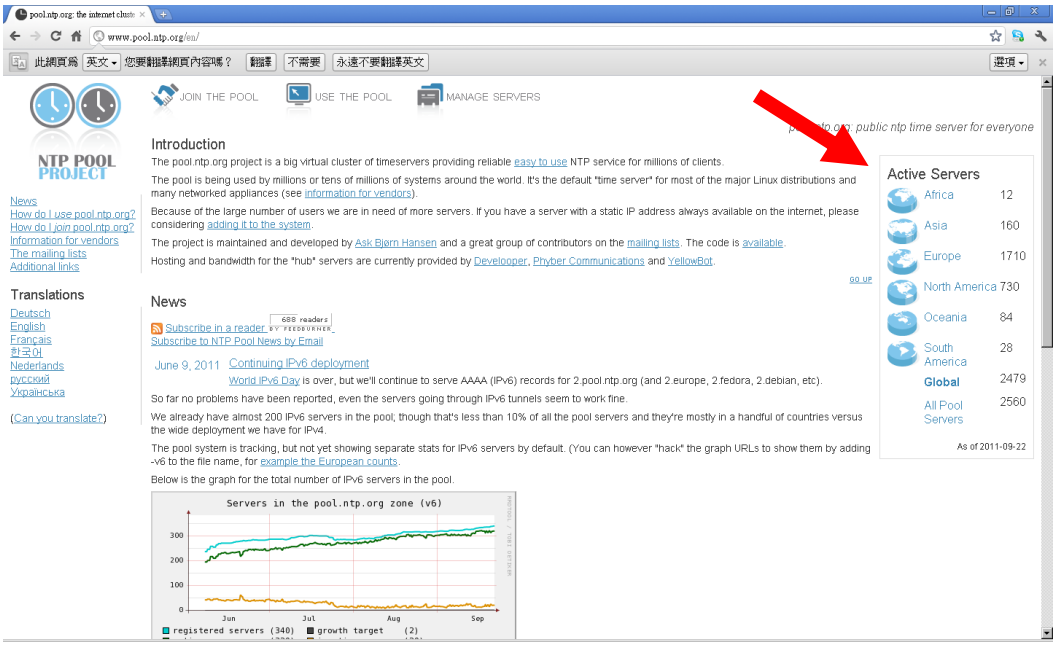
Settings/Time Zone Page

Time Zone: Select the local time zone for 'buffering page' display.

NOTICE: default time zone in " (GMT+8:00)Taipei,Beijing,Perth,Singapore,Hong Kong".

SNTP Time Server: For more information about SNTP Time server,

please visit NTP Pool Project page: http://www.pool.ntp.org/en/



For example to Save SNTP Time Server IP (location: Taipei, Taiwan, Asia):

Step1. Visit NTP Pool page, click Active Server > Asia,

And get the pool zone address of Taiwan: tw.pool.ntp.org (or asia.pool.ntp.org)

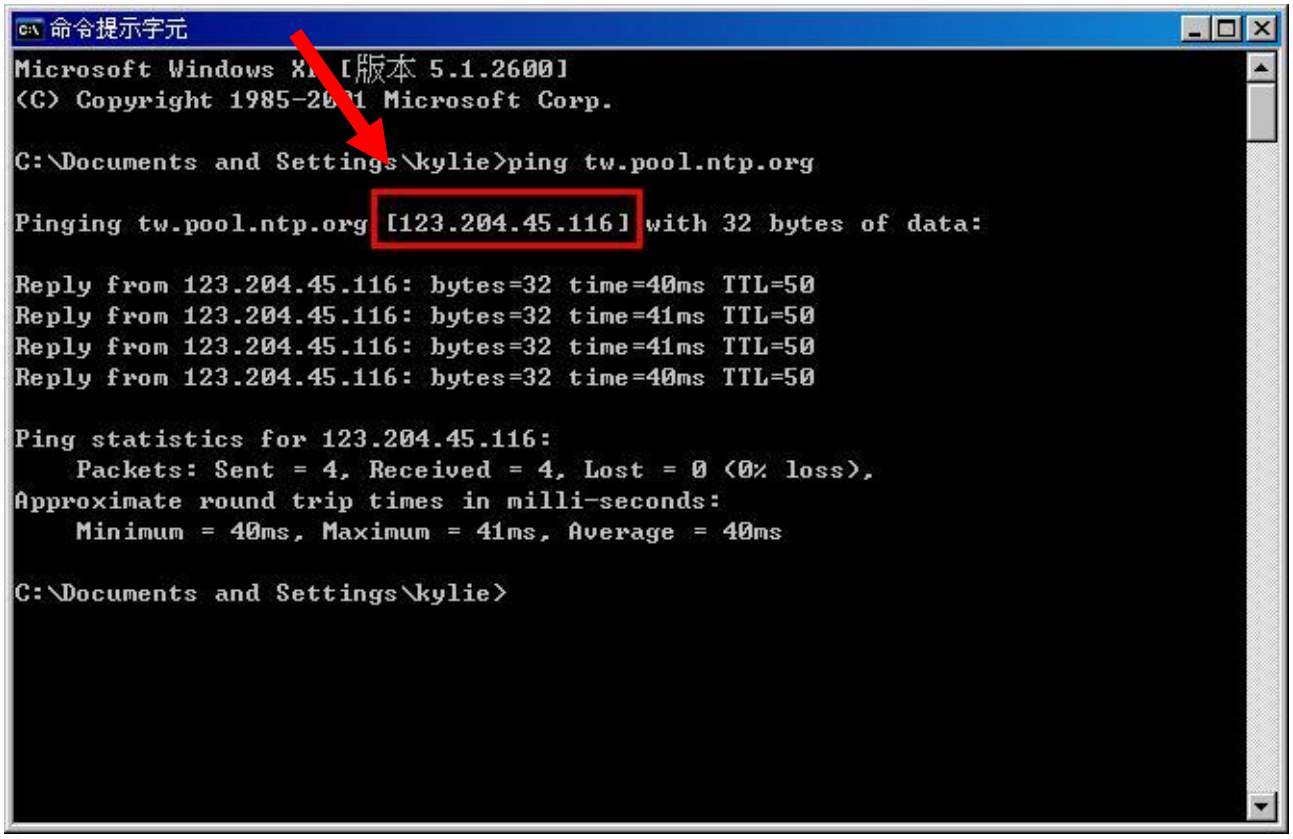
Step 2. Run MS-DOS command 'ping [pool zone address]'.

```
C:\Documents and Settings\kylie>ping tw.pool.ntp.org
```

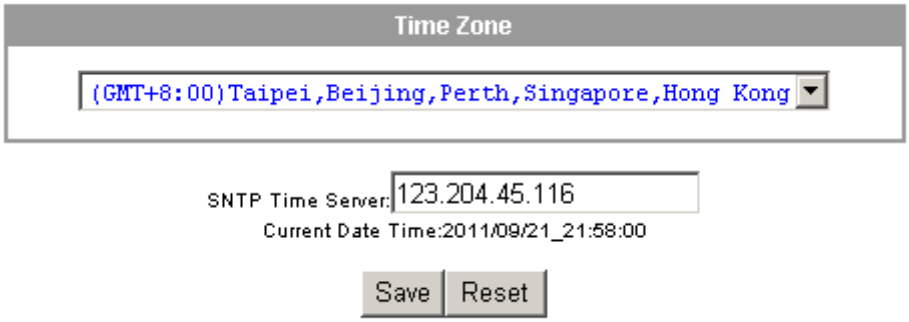
Ex: ping tw.pool.ntp.org

Step 3. If the command send is successful, you will get SNTP Time Server IP.

In this example, SNTP Time Server IP is '123.204.45.116'.

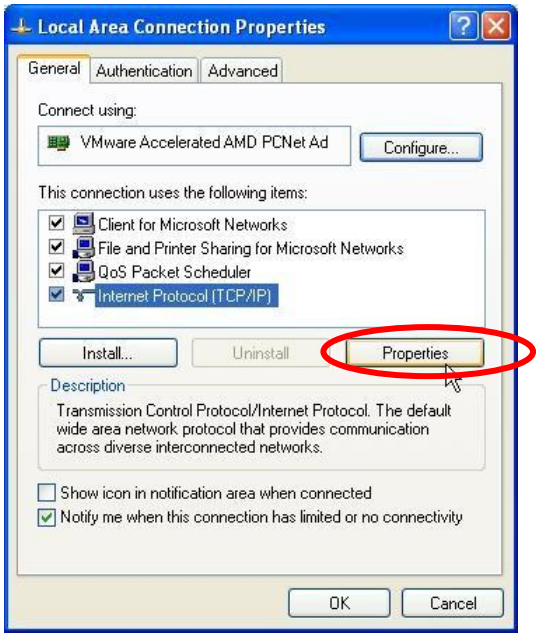
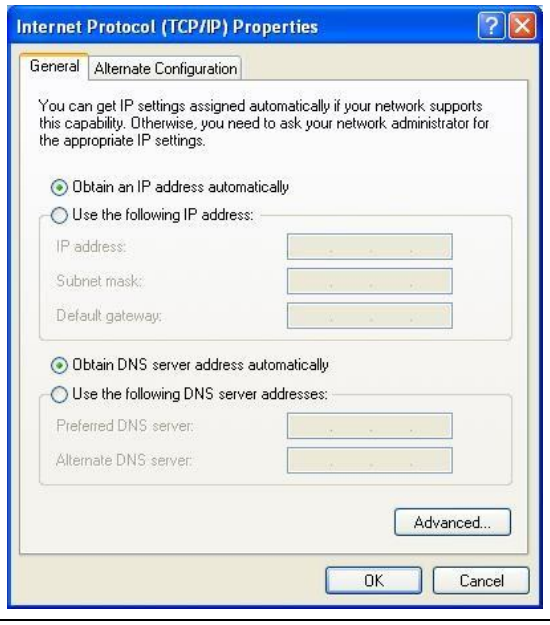

命令提示字元
Microsoft Windows XP [版本 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\kylie>ping tw.pool.ntp.org
Pinging tw.pool.ntp.org [123.204.45.116] with 32 bytes of data:
Reply from 123.204.45.116: bytes=32 time=40ms TTL=50
Reply from 123.204.45.116: bytes=32 time=41ms TTL=50
Reply from 123.204.45.116: bytes=32 time=41ms TTL=50
Reply from 123.204.45.116: bytes=32 time=40ms TTL=50
Ping statistics for 123.204.45.116:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 40ms, Maximum = 41ms, Average = 40ms
C:\Documents and Settings\kylie>

Step 4. Key in the IP address: 123.204.45.116 (in this example), then click 'Save'.



Step 5. Re-power on the reader (optional).

ANNEX A. How to Change PC/Laptop Network Setting to Support the Auto IP Mode

Step 1: Most of the PC/Laptop network default setting is "Obtain an IP address automatically" (auto IP mode). If not, you can follow the steps to change the network setting to auto IP mode. Go to: Control Panel > Network and Internet Connections > Local Area Connection Properties	
Step 2: General select Internet Protocol (TCP/IP) and click Properties.	
Step 3 Select the "Obtain an IP address automatically. Then click "OK".	

Step 4 Connect the SF650A to PC/Laptop via Ethernet cable then Power On the SF650A.	

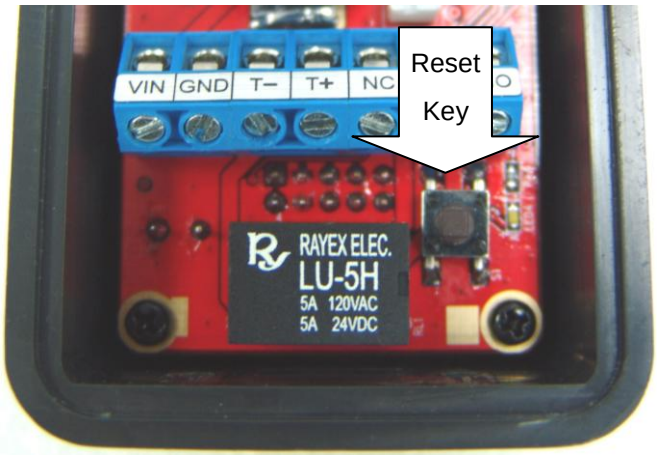
ANNEX B. How to Go Back to Default Settings

When password is lost, forgotten or need to reset the device to the auto IP mode.

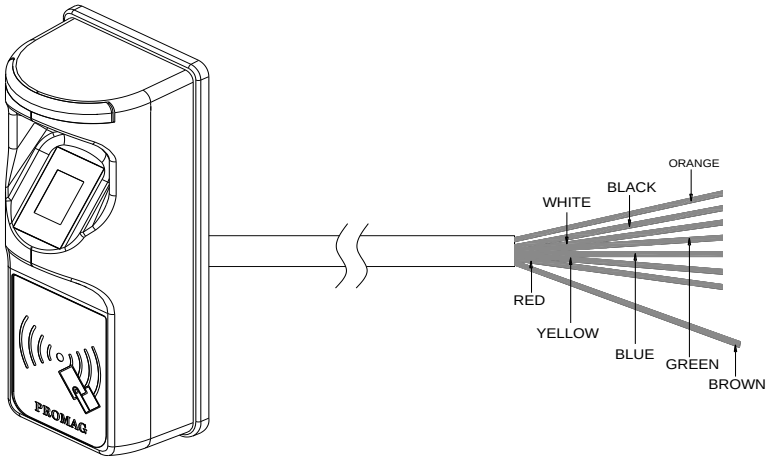
You can press the Reset-Key for 5 seconds, the SF650A will reset automatically and go back to default setting. The password is "admin" and IP mode will set to auto IP mode.

Some settings will remain the same when reset to default:

1. Device name
2. MAC address
3. Reader functions
4. Fingerprint Template database
5. User Data



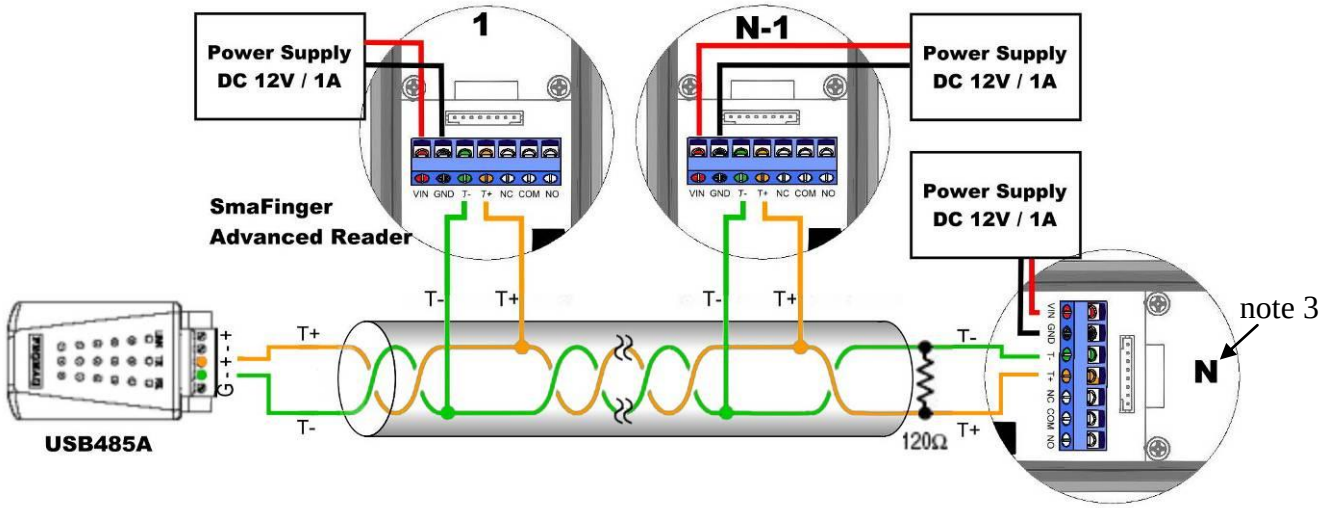
ANNEX C. How to Connect Reader to Controller via RS232/RS485/Wiegand/Tk2



Wires Assignment

Color	Symbol	I/O	Description
Red	VCC	IN	Power Input : DC 7.5V~12V
Black	GND	IN	Power Ground
White	DATA 1	OUT	Wiegand Data 1 Signal / ABA TK2 Clock (Strobe)
Green	DATA 0	OUT	Wiegand Data 0 Signal / ABA TK2 Data
Yellow	TXD	OUT	RS232 TXD (To Host RXD)
Blue	RXD	IN	RS232 RXD (To Host TXD)
Orange	CP	OUT	ABA TK2 Card Present
Brown	LED/BUZEER	IN	External LED/BUZZER Control

Example for RS485 Connection (Optional)



*** Two ends of wire must connect 120 Ohm terminal resistor** **** N up to 32**

Remark: More detail information about connection, please refer to "SmaFingerUser'sManual.pdf"

ANNEX D. How to Update Fingerprints by Software

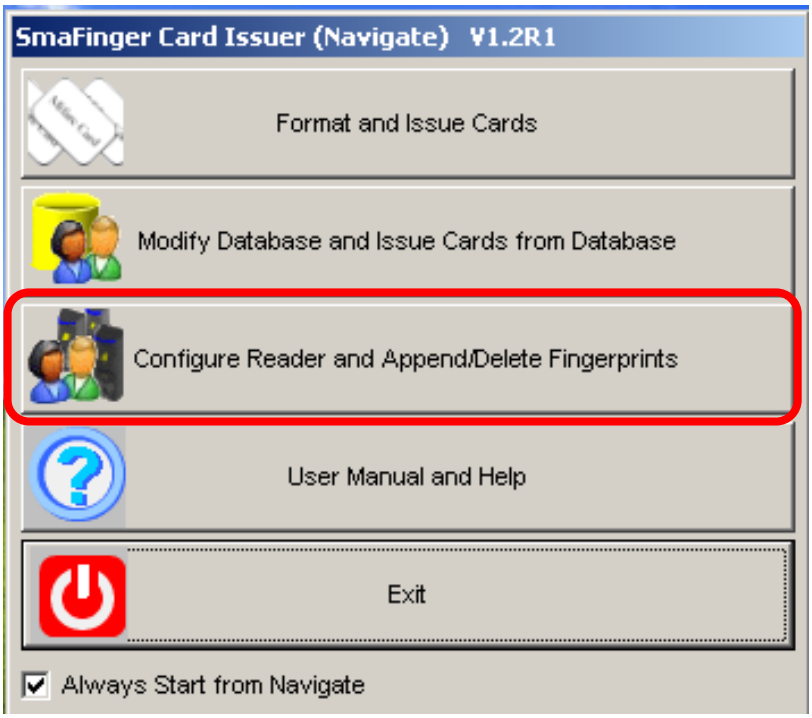
Step 1

1. Connect the Reader via TCP/IP

2. Supply 9V power

Step 2

1. Click [Configure Reader and Append/Delete Fingerprints] to manage user's data in Reader.

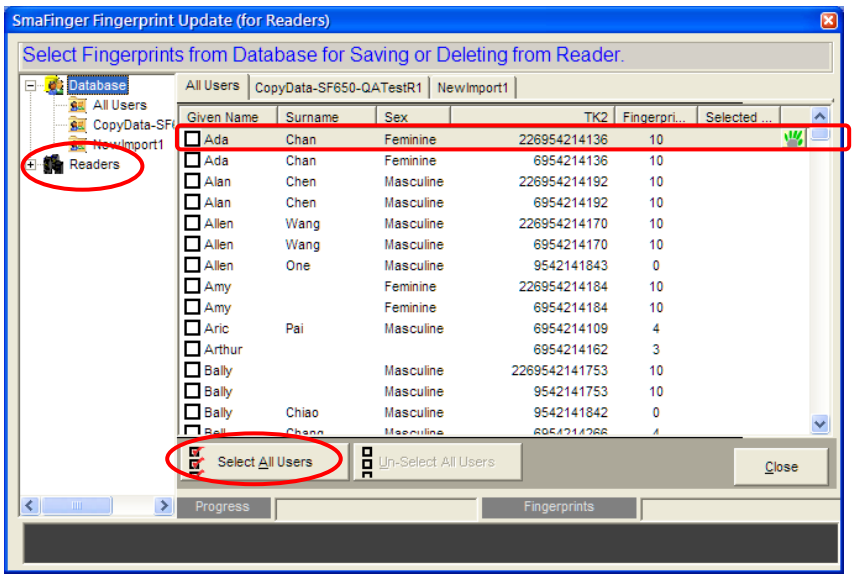

SmaFinger Card Issuer (Navigate) V1.2R1
Format and Issue Cards
Modify Database and Issue Cards from Database
Configure Reader and Append/Delete Fingerprints
User Manual and Help
Exit
Always Start from Navigate

Step 3

1. Check up User in user list.

2. Or "Select All Users".

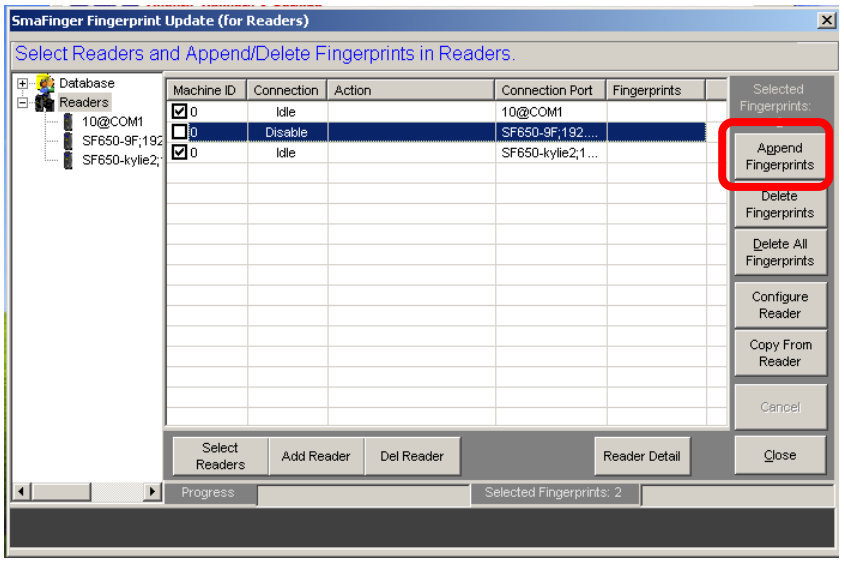
3. Click "Readers"



Step 4

1. Click "Append Fingerprints" to save selected users' data to SmaFinger® Reader.

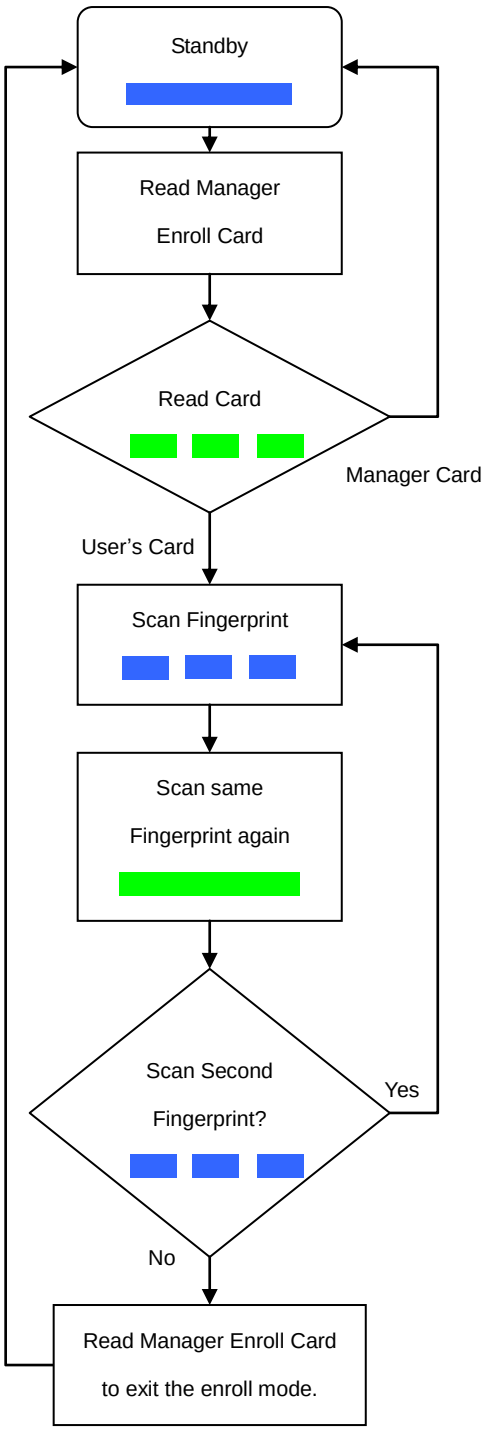
* Before Save, you may need to delete all data from SmaFinger® Reader first.



Remark: About SmaFinger® Card Issuer, please refer to "SmaFinger®CardIssuer.pdf".

ANNEX E. How to Update Fingerprints by Manager Card

1. Enroll Fingerprint (Access Mode: Finger Only)



Step 1

In Standby mode the LED is blue on, you can read Manager Enroll Card to enter the enroll mode

Step 2

In enroll mode the LED is green blinking, you can read the User Card to store the card UID or Sector Data and enter the scan mode.

Or read Manager Enroll Card again to exit the enroll mode.

Step 3

In scan mode the LED is blue blinking, please scan user's fingerprint till beeper sound, the LED will become green on.

Scan the same fingerprint again till beeper sound, the LED will become blue blinking.

Step 4

Continue step 3 to scan second fingerprint with the same card UID or Sector Data if needed.

(The same card UID or Sector Data can enroll up to 10 fingerprints)

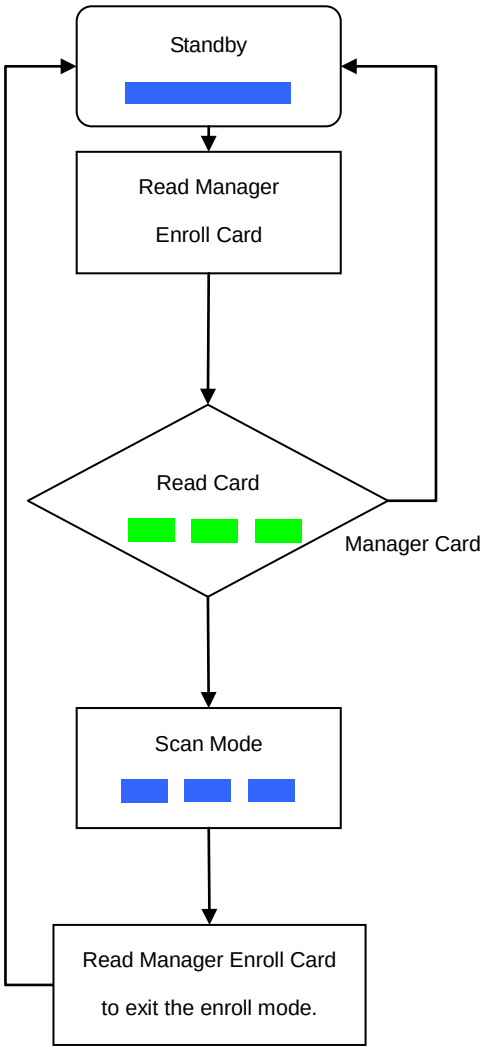
Or read Manager Enroll Card to finish the enrollment and exit the enroll mode.

Then the user can use fingerprint only on the SF600 enrolled. The card can be used card-only on the SF600 enrolled.

Remark:

1. Warning! Keep the User Card and do not lose it! To delete user must use the same User Card. Once you lose User Card, you cannot delete user from reader.
2. For multi-user, please use the Multi-User Card to create serial number automatically.

2. Enroll Fingerprint (Access Mode: Card Only)



Step 1

In Standby mode the LED is blue on, you can read Manager Enroll Card to enter the enroll mode

Step 2

In enroll mode the LED is green blinking, you can read the User Card to store the card UID or Sector Data and enter the scan mode.

Or read Manager Enroll Card again to exit the enroll mode.

Step 3

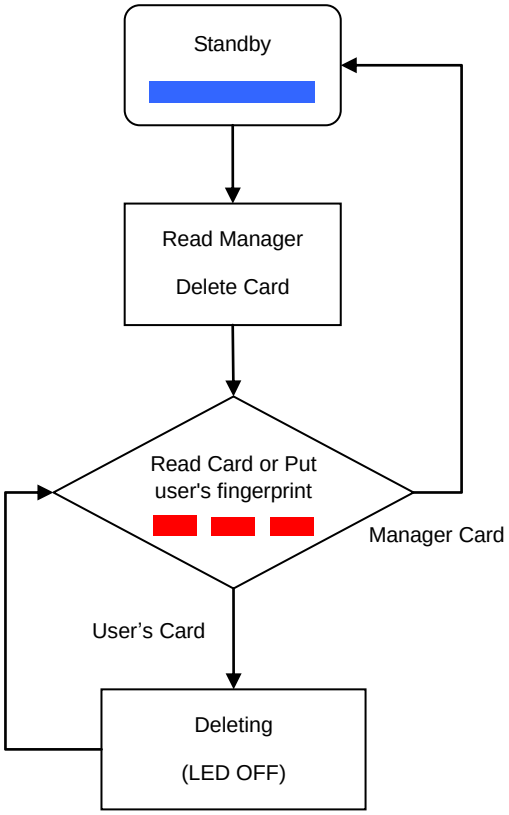
Read Manager Enroll Card to finish the enrollment and exit the enroll mode.

Then the user's card can be used card-only on the SF600 enrolled.

Remark:

1. Warning! Keep the User Card and do not lose it! To delete user must use the same User Card. Once you lose User Card, you cannot delete user from reader.
2. The Multi-User Card cannot be used for Card Only access mode.

3. Delete Fingerprint for deletion



Step 1

In Standby mode the LED is blue on, you can read Manager Delete Card to enter the delete mode

Step 2

In delete mode the LED is red blinking, you can read the User Card to delete the user's all fingerprints with UID or put user's fingerprint to delete the user's all fingerprints. After deletion to exit the delete mode.

Or read Manager Delete Card again to exit the delete mode.

Remark:

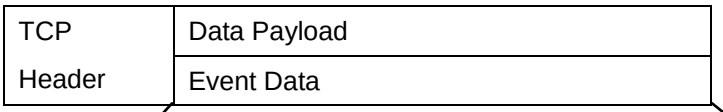
To DELETE the user's fingerprints which are enrolled by the Multi-User Card, it is necessary to put user's fingerprint in Delete Mode.

ANNEX F. Event Server Detail

Event Data Structure

TCP Port Number: 2186 (Default)

TCP Data Payload (Event Packet) ：



Fields	Size (Byte)	Description
Time	4	Time Value (Long Integer Type)
Data Type	1	1 = MIFARE UID 2 = DESFIRE UID 3 = 125K UID 4 = MIFARE SECTORE 9 = UNKNOW UID
Data Size	1	0~16
Data Buffer	16	Card UID or Sector Data
Name	16	Name (String Type)
XID	4	The XID of the login device

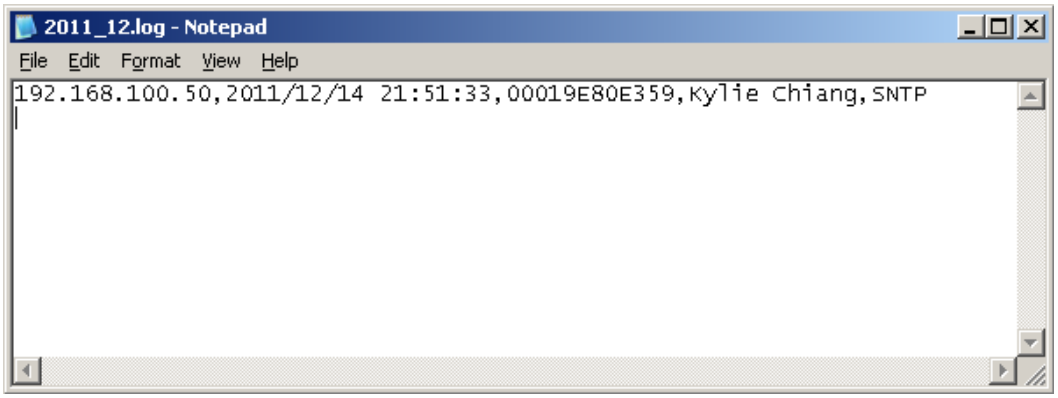
Record File Format

File Name:

[Year]_[Month].log

File Content:

[IP Address], [Date and Time], [User ID], [User Name], [Time source]



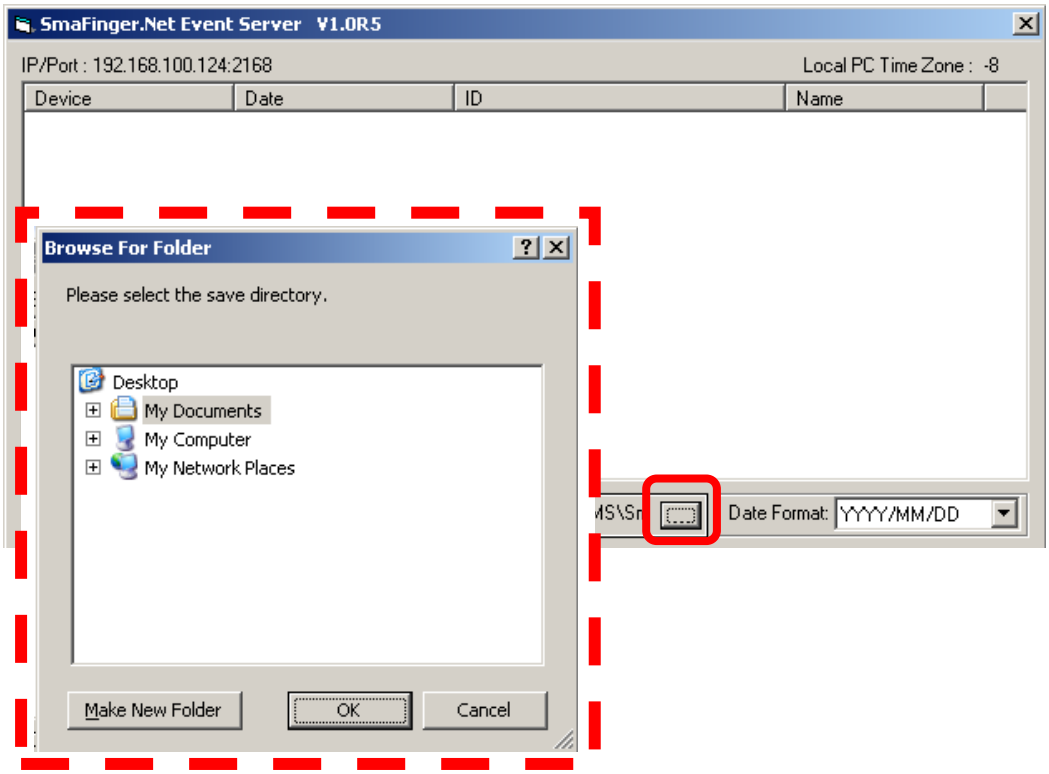
***Remark:**

[Date and Time] YYYY / MM / DD hh:mm:ss (default)

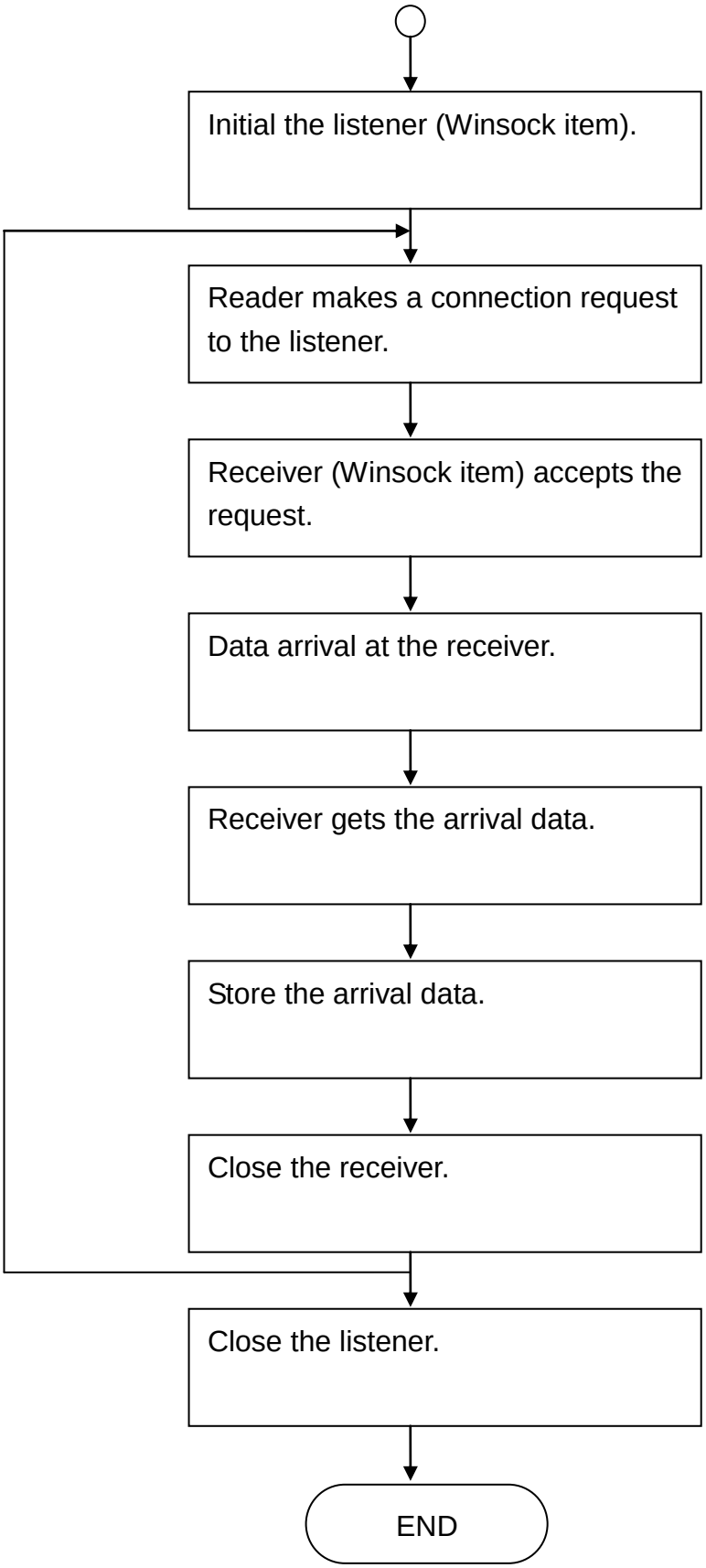
[Time source] Time source means SNTP time (via internet) or local PC time.

Record File Path

You can change the path by clicking ... and then assign a specified path that you want. The records will be saved as a log file automatically in this folder every month.



Event Server Software Data Receive Flow Chart:


Initial the listener (Winsock item).
Reader makes a connection request to the listener.
Receiver (Winsock item) accepts the request.
Data arrival at the receiver.
Receiver gets the arrival data.
Store the arrival data.
Close the receiver.
Close the listener.
END

ANNEX G. History

REV.A: February 07, 2012 (Kylie)
Issue.
February 22, 2012 (Kylie)
Move the record file remark(p.13) to ANNEX F, and change ANNEX number.
February 24, 2012 (Kylie)
Add event server S/W data recevice flow chart. (p.35)
February 29, 2012 (Kylie)
Add event data structure “XID” description. (p.33)
March 21, 2012 (Kylie)
Re-typesetting.
Add the solution about event server can’t get the attendance records.(p.14)

PROMAG®

GIGA-TMS INC.

http://www.gigatms.com.tw

mailto:promag@gigatms.com.tw

TEL : +886-2-26954214

FAX : +886-2-26954213

Office: 8F, No. 31,Lane 169, Kang-Ning St., Hsi-Chih, Taipei, Taiwan